

Please substitute the following paragraph [0136] for pending paragraph [0136]:

*a19*

As described herein, embodiments of the invention are capable of interacting with other devices as part of a personal area network. FIG. 38 illustrates one embodiment of a wireless transceiver biometric device 3800 according to the invention. Device 3800 comprises a biometric device similar to device 1200, described above, a DSP chip 3802, a BLUETOOTH chip 3804, a display 3806, and a battery 3808. As described above, device 1200 has a piezo ceramic sensor array 700 and four multiplexers 1225 according to the invention.

*Please substitute the following paragraph [0137] for pending paragraph [0137]:*

Biometric device 1200 is coupled to a DSP 3802. DSP 3802 controls device 1200 and stores biometric data. DSP 3802 is also coupled to BLUETOOTH chip 3804 for sending and receiving data. A display 3806 is used to communicate information to a user of device 3800. Device 3800 is powered by a battery 3808. As would be known to a person skilled in the relevant art, BLUETOOTH is an agreement that governs the protocols and hardware for a short-range wireless communications technology. The invention is not limited to implementing only the BLUETOOTH technology. Other wireless protocols and hardware can also be used.

*In the Abstract*

Please substitute the following Abstract, which is also reproduced on a separate page filed herewith, for the pending Abstract:

*NE*

An identification device having a piezoelectric sensor array is used to obtain biometric data. Multiplexers are switched to control the sensor. The device has several operating modes for obtaining a variety of biometric data, including an impedance detection mode, a voltage detection mode, an imaging mode, and a Doppler-shift detection mode. The

presence of a fingerprint on the sensor can be used to turn-on the device. The device is capable of capturing a fingerprint, forming a three-dimensional map of a finger bone, and/or determining the direction and speed of arteriole and/or capillary blood flow in a finger. A single pixel or a group of pixels can be detected and readout to a memory. The device can be used as an electronic signature device. The device can operate as part of a personal area network, using a public service layer according to the invention.

NE